UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,995	08/31/2000	William B. Boyle	K35A0646	4386

			EXAMINER
26332	7590	02/10/2005	VENT, JAMIE J

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ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/652,995	BOYLE, WILLIAM B.
	Examiner	Art Unit	
	Jamie Vent	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 September 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign
country or in public use or on sale in this country, more than one year prior to the date of
application for patent in the United States.

Claims 1-16 are rejected under 35 U.S.C. 102(b) as being unpatentable by Jeffries et al

(US 5,974,544).

[Claim 1]

In regard to Claim 1, Jeffries et al discloses a method of transferring a non-time critical, error

intolerant data segment stored on a disk drive, which is responsive to set of data transfer

commands generated by a host processor and which is operating in a mode optimized for

transferring time-critical, error-tolerant streaming data segments stored or to be stored on the

disk drive (Column 2 Lines 23-45) the method comprising:

- Sending a sequence of data transfer commands generated by the host processor

    to the disk drive to transfer a respective sequence of time-critical, non-

    redundantly recorded, error-tolerant streaming data segments at a required data

    transfer rate (Figure 13 show various commands sent by the host processor to

transfer the respective sequence of data as seen in the graph and further

described in Column 50 Lines 63+ and Column 51 Lines 1-39);

- Selectively interposing a first data transfer command into the sequence of data

transfer commands, the first data transfer command initiating a first transfer of

non-time-critical, error intolerant data segment from a first storage location

(Column 12 Lines 34-57 describes the interposing of data transfer commands

from the first storage location);

- Transmitting a data transfer error signal generated by the disk drive to the host

processor, the data transfer error signal having a state that indicates whether any

data transfer errors have occurred with respect to the first transfer of the non-

critical, error-intolerant data segment (Figure 14 shows the transmitting of a data

transfer error signal and as further described in Column 17 Lines 10-22);

- Selectively interposing a second data transfer command into the sequence of

data transfer commands, the second data transfer command initiating a second

transfer of non-time critical, error-intolerant data segment from a second storage

location, thereby utilizing storage redundancy to achieve an accuracy required for

the non-time-critical, error-intolerant data segment while maintaining the required

data transfer rate of the sequence of time-critical, non-redundantly recorded error

tolerant streaming data segments (Column 17 Lines 3-44 describes the re-

mapping/interposing of the a second data onto the first disk drive in the situation

of redundant and non-redundant data)

[claims 2, 8, & 13]

In regard to Claims 2, 8, and 13, Jeffries et al meets the second storage location has a

predetermined relation to the first storage location (Figure 1 disk drives 110-114 shows

predetermined relation of the first storage and the second storage location.)

[claim 3]

In regard to Claim 3, Jeffries et al meets the required data transfer rate is less than a maximum

data transfer rate for the disk drive, thereby providing time for transferring the non-time-critical,

error-intolerant data segment while maintaining the required data transfer rate for transferring

the sequence of time-critical, error-tolerant streaming data segments (Column 3 Lines 5-8

describes the various transfer rates associated with disk drives while Column 11 Lines 50-62

further describes the transferring rates of the non-time critical data).

[claim 4]

In regard to Claim 4, Jeffries et al meets the time-critical, non-redundantly recorded, error

tolerant streaming data segments correspond to audio/visual data (Column 17 Lines 35-44

describes the remapping of non-redundant data such as AV data which is inherently time critical

and error tolerant data segment).

[claim 5]

In regard to Claim 5, Jeffries et al meets the set of data transfer commands requires no disk-

drive-resident error recovery in event of a data transfer error (Column 14 Lines 63-67 and

Column 15 Lines 1-11 describe the rebuilding of a disk drive due to defective sectors being

present. The transfer of data to another disk drive when a defective sector is present is not due

to disk-drive resident error but rather for guarding of the data for interleaving and stripping of

data for future read/write functions).

[claim 6]

In regard to Claim 6, Jeffries et al meets the disk drive is compatible with one or more standards from the group: ATA, SCSI, IEEE 1394 (Column 3 Lines 45-48).

[claim 7]

In regard to Claim 7, Jeffries et al meets a method of storing a non-time-critical, error-intolerant data segment on a disk drive, which is responsive to a set of data transfer commands generated by a host processor and which non-redundantly stores time critical, error-tolerant data segments and which stores non-time critical, error intolerant data segments (Figure 1 shows the host processor wherein data is transferred as seen further in Figures 8 and 9), the method comprising:

- Sending a first data transfer command generated by the host processor to the disk drive to write the non-time-critical, error-intolerant data segment on the disk drive (Figure 13 show various commands sent by the host processor to transfer the respective sequence of data as seen in the graph and further described in Column 50 Lines 63+ and Column 51 Lines 1-39);

- Writing the non-time-critical, error intolerant data segment at a first storage location (Figure 9 shows the writing of the data segment into the first storage location as determined by the command generated by the transfer);

[claims 9 & 10]

In regard to Claims 9 and 10, Jefferies et al meets the method further comprising:

- Sending a sequence of data transfer commands generated by the host processor to the disk drive to transfer a respective sequence of time-critical, non-redundantly recorded, error-tolerant streaming data segments at a required data transfer rate (Figure 13 show various commands sent by the host processor to

transfer the respective sequence of data as seen in the graph and further

described in Column 50 Lines 63+ and Column 51 Lines 1-39

- Transmitting a first and second data transfer error signal generated by the disk

    drive to the host processor, the data transfer error signal having a state that

    indicates whether any data transfer errors have occurred with respect to the

    writing of the non-time-critical, error-intolerant data segment to the first storage

    location (Figure 14 shows the transmitting of a data transfer error signal and as

    further described in Column 17 Lines 10-22);

- Selectively interposing a second data transfer command into the sequence of

    data transfer commands to write the non-time-critical, error intolerant data

    segment on the disk drive if a data transfer error has occurred with respect to the

    writing of the non-time-critical, error-intolerant data segment to the first storage

    location or the second storage location (Column 17 Lines 3-44 describes the re-

    mapping/interposing of the a second data onto the first disk drive in the situation

    of redundant and non-redundant data); and

- Writing the non-time-critical, error-intolerant data segment to the disk drive at a

    third storage location (Figure 7 shows the writing of data into the various disk

    drives after the host has transferred data and the request to write is processed).

[claim 11]

In regard to Claim 11, Jeffries et al meets the third storage location is different from both the first

storage location and the second storage location (Figure 1 shows the various storage locations

while Column 3 Lines 1-22 describes how each storage location is different in the segment

storage of the data).

[claim 12]

In regard to Claim 12, Jeffries et al meets the method of transferring data, as disclosed in Claim

1, with the additional limitation that the data transfer bandwidth that is a difference between than

the maximum bandwidth and the data transfer bandwidth (Column 13 Lines 65-67 and Column

14 Lines 1-6 describes the transferring of data at an increase data bandwidth and thereby being

different than the maximum data bandwidth set for the disk drives).

[claims 14 & 15]

In regard to Claims 14 and 15, meets a video recording system to record and playback non-

time-critical, error-intolerant data segments and time-critical, error tolerant streaming data

segments using a disk drive responsive to a set of data transfer commands and optimized for

transferring time-critical, error tolerant streaming data segments at a required data transfer rate,

the video recording system comprising:

- User interface that receives user input (Column 10 Lines 47-58 describes the

  user interface used in the system);

- A data management system that comprises:

  o At least one data buffer that receives, stores, and transmits time-

    critical, error-tolerant streaming data segments (Column 12 Lines 13-

    24 describes the disk drive's buffer RAM which is used to store and

    transmit data segments); and

  o Host processor that generates a sequence of data transfer commands

    sent to the disk drive to transfer a respective sequence of time-critical,

    error-tolerant streaming data segments at the required data transfer

    rate (Column 12 Lines 9-12 describes the generation of data

    commands); that selectively interposes a first data transfer command

into the sequence of data transfer commands, the first data transfer

command initiating a first transfer of a non-time-critical, error-

intolerant data segment from a first storage location; that receives a

data transfer error signal generated by the disk drive (Figures 8 and

9), the data transfer error signal having a state that indicates whether

any data transfer error signal having a state that indicates whether

any data transfer errors have occurred in the first transfer of non-time-

critical, error-intolerant data segment; and that selectively interposes a

second data transfer command into the sequence of data transfer

commands, the second data transfer command initiating a second

transfer of the non-time-critical, error-intolerant data segment from a

second storage location (Column 12 Lines 1-29), thereby utilizing

storage redundancy to achieve an accuracy required for the non-time-

critical, error-intolerant data segment while maintaining the required

data transfer rate of the sequence of time-critical, error-tolerant

streaming data segments (Column 17 Lines 4-34);

o   Video input interface that receives an external video data stream for a

selected video program segment and video output interface that is

connectable to a display device (Figure 4 shows the data interface

that receives external AV data segments and outputs the video

through the host bus).

[claim 16]

In regard to Claim 16, meets the data management system further comprises a command buffer (Figure 1 shows a command buffer 104 and 106 which contains command information regarding management information as further described in Column 12 Lines 13-24).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Fax Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie Vent whose telephone number is 703-305-0378. The examiner can normally be reached on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703-305-4380. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).
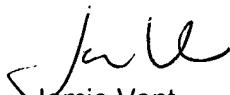
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